AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1	1. (Currently amended) A computerized method for determining
2	implications in a word-level network, comprising:
3	generating a graph data structure representation for a set of constraints
4	associated with a circuit design, comprising one or more nodes, each node having
5	an associated range;
6	identifying a first unjustified Boolean node;
7	limiting a first input range, of a first input to the first unjustified Boolean
8	node, to contain no value of type non-controlling;
9	performing a first implication process, upon the ranges of the graph data
10	structure, using the first input range limitation;
11	limiting a second input range, of a second input to the first unjustified
12	Boolean node, to contain no value of type non-controlling;
13	performing a second implication process, upon the ranges of the graph
14	data structure, using the second input range limitation;
15	accumulating a first result of the first implication process with a second
16	result of the second implication process to create an accumulated result; and
17	displaying the accumulated result to a circuit designer to facilitate
18	implementing the circuit design.
1	2. (Original) The method of claim 1, further comprising the following
2	steps:

5	identifying a third unjustified Boolean node as a result of limiting the first
4	input to the first unjustified Boolean node; and
5	limiting an input range, of an input to the third unjustified Boolean node,
6	to contain no value of type non-controlling.
1	3. (Original) The method of claim 1, further comprising:
2	identifying a third unjustified Boolean node; and
3	performing the first implication process with a combination of an input
4	range, of an input to the third unjustified Boolean node, set to contain no value of
5	type non-controlling and the first input range, of the first input to the first
6	unjustified Boolean node, set to contain no value of type non-controlling.
1	4. (Original) The method of claim 3, further comprising:
2	identifying the first unjustified Boolean node, and the third unjustified
3	Boolean node, as a result of the set of constraints.
1	5. (Previously presented) The method of claim 3, wherein the
2	identification of a third unjustified Boolean node is limited to be within a
3	pre-determined number of levels of the first unjustified Boolean node.
1	6. (Previously presented) The method of claim 2, wherein the
2	identification of a third unjustified Boolean node is limited to be within a
3	pre-determined number of levels of the first unjustified Boolean node.
1	7. (Original) The method of claim 2, further comprising:
2	removing the third unjustified Boolean node, from further limitation of an
3	input range to contain no value of type non-controlling, if an inclusion of the third
4	unjustified Boolean node, in an implication process, produces an amount of

5	learned implications that is below a threshold of learned implications that is
6	determined from an inclusion of at least a fourth unjustified Boolean node in a
7	previous implication process.
1	8. (Original) The method of claim 2, further comprising:
2	removing the third unjustified Boolean node, from further limitation of an
3	input range to contain no value of type non-controlling, if an inclusion of the third
4	unjustified Boolean node, in an implication process, produces a percentage of
5	learned implications that is below a threshold percentage of learned implications
6	that is determined from an inclusion of at least a fourth unjustified Boolean node
7	in a previous implication process.
1	9. (Original) A computer program product comprising:
2	a computer usable medium having computer readable code embodied
3	therein for determining implications in a word-level network, the computer
4	program product including:
5	computer readable program code devices configured to cause a computer
6	to effect generating a graph data structure representation, comprising one or more
7	nodes, each node having an associated range;
8	computer readable program code devices configured to cause a computer
9	to effect identifying a first unjustified Boolean node;
10	computer readable program code devices configured to cause a computer
11	to effect limiting a first input range, of a first input to the first unjustified Boolean
12	node, to contain no value of type non-controlling;
13	computer readable program code devices configured to cause a computer
14	to effect performing a first implication process, upon the ranges of the graph data

15

structure, using the first input range limitation;

16	computer readable program code devices configured to cause a computer
17	to effect limiting a second input range, of a second input to the first unjustified
18	Boolean node, to contain no value of type non-controlling;
19	computer readable program code devices configured to cause a computer
20	to effect performing a second implication process, upon the ranges of the graph
21	data structure, using the second input range limitation;
22	computer readable program code devices configured to cause a computer
23	to effect accumulating a first result of the first implication process with a second
24	result of the second implication process.
1	10. (Currently amended) An electromagnetic waveform A computer-
2	readable storage medium comprising a computer program, the computer program
3	for determining implications in a word-level network, the computer program
4	comprising the following steps when executed by a data processing system:
5	generating a graph data structure representation, comprising one or more
6	nodes, each node having an associated range;
7	identifying a first unjustified Boolean node;
8	limiting a first input range, of a first input to the first unjustified Boolean
9	node, to contain no value of type non-controlling;
10	performing a first implication process, upon the ranges of the graph data
11	structure, using the first input range limitation;
12	limiting a second input range, of a second input to the first unjustified
13	Boolean node, to contain no value of type non-controlling;
14	performing a second implication process, upon the ranges of the graph
15	data structure, using the second input range limitation;
16	accumulating a first result of the first implication process with a second
17	result of the second implication process.